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10/569,200	11/15/2006	Hilbert Zhang	US03 0285 US2	2018
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,200

Applicant(s)

ZHANG, HILBERT

Examiner

NALIN PILAPITIYA

Art Unit

4154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities: the dependency of the claim is incorrect; the preamble should be "the RF stage as claimed in claim 1" in order to be consistent with claim terminology. For examination on the merits, claim 5 will be assumed to depend of claim 1. Appropriate correction is required.
2. Claim 6 is objected to because of the following informalities: the dependency of the claim is incorrect; the preamble should be "the RF stage as claimed in claim 1" in order to be consistent with claim terminology. For examination on the merits, claim 6 will be assumed to depend of claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 7, 8, 9, 14, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al (Patent No.: 4,955,038).

Re claim 1, Lee discloses a RF stage in a wireless station comprising: a detector for detecting a sequence in an incoming signal received by the wireless station and for generating an activation signal in response to detecting the sequence in the incoming signal (column 5, lines 41 - 55).

Re claim 2, Lee discloses the RF stage as claimed in claim 1, characterized in that a baseband stage in the wireless station receives the activation signal and transitions from low power state to an active power state in response to receiving the activation signal (column 5, lines 41 – 55).

Re claim 7, Lee discloses a wireless station comprising: a baseband stage in a lower power state when a signal is not received by the wireless station and a RF stage for detecting a sequence in a signal received by the wireless station and for generating an activation signal in response to detecting the sequence, wherein the activation signal is transmitted to the baseband stage to cause the baseband stage to transition from the low power state to an active power state (column 5, lines 41 – 55).

Re claim 8, Lee discloses the wireless station as claimed in claim 7, characterized in that the RF stage comprises a receiver for detecting the sequence in the signal received by the wireless station and for generating the activation signal in response to detecting the sequence (column 5, lines 41 - 55).

Re claim 9, Lee discloses the wireless station as claimed in claim 8, characterized in that the receiver comprises a detector for detecting the sequence in the signal and for generating the activation signal in response to detecting the sequence (column 5, lines 41 – 55).

Re claim 14, Lee discloses a method for detecting a sequence in a signal received by a wireless station, comprising the steps of: detecting the sequence in

a RF stage in the wireless station and generating an activation signal in response to detecting the sequence (column 5, lines 41 – 55).

Re claim 15, Lee discloses the method as claimed in claim 14, further comprising the step of transmitting the activation signal to a baseband stage in the wireless station to cause the baseband stage to transition from a low power state to an active power state (column 5, lines 41 – 55).

Re claim 16, Lee discloses the method as claimed in claim 14, characterized in that the step of detecting the sequence in a RF stage in the wireless station comprises the step of detecting the sequence in a detector in the RF stage in the wireless station (column 5, lines 41 – 55).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Patent No.: 4,955,038) as applied to claim 1 above, and further in view of Liu et al (Patent No.: 6,122,260).

Re claim 3, Lee discloses the RF stage as claimed in claim 1, but fails to disclose characterized in that the detector comprises: a delay for inserting a predetermined time delay into the incoming signal; a correlator for receiving the incoming signal and the delayed incoming signal and for generating a correlated

signal; and a peak detector for receiving the correlated signal and for detecting the sequence, wherein the peak detector generates the activation signal in response to detecting the sequence.

However, Liu discloses characterized in that the detector comprises: a delay for inserting a predetermined time delay into the incoming signal; a correlator for receiving the incoming signal and the delayed incoming signal and for generating a correlated signal; and a peak detector for receiving the correlated signal and for detecting the sequence, wherein the peak detector generates the activation signal in response to detecting the sequence (column 14, lines 21 – 26).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Liu " as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal using a correlator and a peak detector, which Liu states is a well known technique in the prior art (column 14, lines 21 - 26), for the purposes of determining when to power up the system in order to save energy.

Re claim 10, Lee discloses the wireless station as claimed in claim 9 but fails to disclose characterized in that the detector comprises: a delay for inserting a predetermined time delay into the signal; a correlator for receiving the signal and the delayed signal and for generating a correlated signal; and a peak detector for receiving the correlated signal and for detecting the sequence,

wherein the peak detector generates the activation signal in response to detecting the sequence.

However Liu discloses characterized in that the detector comprises: a delay for inserting a predetermined time delay into the signal; a correlator for receiving the signal and the delayed signal and for generating a correlated signal; and a peak detector for receiving the correlated signal and for detecting the sequence, wherein the peak detector generates the activation signal in response to detecting the sequence (column 14, lines 21 – 26).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Liu " as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal using a correlater and a peak detector, which Liu states is a well known technique in the prior art (column 14, lines 21 - 26), for the purposes of determining when to power up the system in order to save energy.

Re claim 17, Lee discloses the method as claimed in claim 16 but fails to disclose characterized in that the step of detecting the sequence in a detector in the RF stage in the wireless station comprises the steps of: inputting the signal into a delay for inserting a predetermined time delay into the signal; inputting the signal and the delayed signal into a correlator for generating a correlated signal; and inputting the correlated signal into a peak detector for detecting the sequence.

However, Liu discloses characterized in that the step of detecting the sequence in a detector in the RF stage in the wireless station comprises the steps of: inputting the signal into a delay for inserting a predetermined time delay into the signal; inputting the signal and the delayed signal into a correlator for generating a correlated signal; and inputting the correlated signal into a peak detector for detecting the sequence (column 14, lines 21 – 26).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Liu " as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal using a correlater and a peak detector, which Liu states is a well known technique in the prior art (column 14, lines 21 - 26), for the purposes of determining when to power up the system in order to save energy.

7. Claims 4, 11, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Patent No.: 4,955,038) as applied to claim 1 above, and further in view of Zhou et al. (Patent No.: 5,781,584).

Re claim 4, Lee discloses the RF stage as claimed in claim 1, but fails to disclose characterized in that the detector comprises: a matched filter having coefficients defined by the sequence and for generating a match signal when the sequence is included in the incoming signal; and a peak detector for receiving the match signal from the matched filter and for generating the activation signal in response to receiving the match signal from the matched filter.

However, Zhou discloses characterized in that the detector comprises: a matched filter having coefficients defined by the sequence and for generating a match signal when the sequence is included in the incoming signal; and a peak detector for receiving the match signal from the matched filter and for generating the activation signal in response to receiving the match signal from the matched filter (column 2 lines 20 – 29).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Zhou" as a whole to produce the invention as claimed with a reasonable expectation of using a matched filter, which is well known in signal processing, for the recognition of a RF signal. Lee discloses that the incoming signal is matched in order to identify the command (column 30, lines 11 - 17) for the purposes of determining when to power up the system in order to save energy.

Re claim 11, Lee discloses the wireless station as claimed in claim 9 but fails to disclose characterized in that the detector comprises: a matched filter having coefficients defined by the sequence for receiving the signal and for generating a match signal when the sequence is included in the signal; and a peak detector for receiving the match signal from the matched filter and for generating the activation signal in response to receiving the match signal from the matched filter.

However, Zhou discloses characterized in that the detector comprises: a matched filter having coefficients defined by the sequence for receiving the signal and for generating a match signal when the sequence is included in the signal; and a peak detector for receiving the match signal from the matched filter and for generating the activation signal in response to receiving the match signal from the matched filter (column 2, lines 20 – 29).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Zhou " as a whole to produce the invention as claimed with a reasonable expectation of using a matched filter, which is well known in signal processing, for the recognition of a RF signal. Lee discloses that the incoming signal is matched in order to identify the command (column 30, lines 11 - 17) for the purposes of determining when to power up the system in order to save energy.

Re claim 18, Lee discloses the method as claimed in claim 16 but fails to disclose characterized in that the step of detecting the sequence in a detector in the RF stage in the wireless station comprises the steps of: inputting the signal into a matched filter having coefficients defined by the sequence; generating a match signal when the sequence is included in the signal; and inputting the match signal into a peak detector to cause the peak detector to generate the activation signal in response to receiving the match signal from the matched filter.

However, Zhou discloses characterized in that the step of detecting the sequence in a detector in the RF stage in the wireless station comprises the steps of: inputting the signal into a matched filter having coefficients defined by the sequence; generating a match signal when the sequence is included in the signal; and inputting the match signal into a peak detector to cause the peak detector to generate the activation signal in response to receiving the match signal from the matched filter (column 2, lines 20 – 29).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Zhou" as a whole to produce the invention as claimed with a reasonable expectation of using a matched filter, which is well known in signal processing, for the recognition of a RF signal. Lee discloses that the incoming signal is matched in order to identify the command (column 30, lines 11 - 17) for the purposes of determining when to power up the system in order to save energy.

8. Claims 5, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Patent No.: 4,955,038) as applied to claim 1 above, and further in view of Thomas et al (Patent No.: 5,818,822).

Re claim 5, Lee discloses the RF stage as claimed in claim 1 but fails to disclose characterized in that the incoming signal comprises a data frame including the sequence and the sequence comprises a Barker sequence.

Thomas discloses characterized in that the incoming signal comprises a data frame including the sequence and the sequence comprises a Barker sequence (column 7, lines 56 – 67).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Zhou " as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal via a barker sequence, which is well known in the prior art, for the purposes of determining when to power up the system in order to save energy.

Re claim 12, Lee discloses the wireless station as claimed in claim 7, but fails to disclose characterized in that the signal comprises a data frame including the sequence and the sequence comprises a Barker sequence.

However, Zhou discloses the wireless station as claimed in claim 7, but fails to disclose characterized in that the signal comprises a data frame including the sequence and the sequence comprises a Barker sequence (column 7, lines 56 – 67).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Zhou " as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal via a barker sequence, which is well known in the prior art, for the purposes of determining when to power up the system in order to save energy.

Re claim 19, Lee discloses the method as claimed in claim 14, but fails to disclose characterized in that the signal comprises a data frame including the sequence and the sequence comprises a Barker sequence.

However, Zhou discloses characterized in that the signal comprises a data frame including the sequence and the sequence comprises a Barker sequence (column 7, lines 56 – 67).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Zhou" as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal via a barker sequence, which is well known in the prior art, for the purposes of determining when to power up the system in order to save energy.

9. Claims 6, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Patent No.: 4,955,038) as applied to claim 1 above, and further in view of Taura et al (Patent No.: 6,038,275).

Re claim 6, Lee discloses the RF stage as claimed in claim 1 but fails to disclose characterized in that the incoming signal comprises a data frame including the sequence and the sequence comprises a sequence of OFDM symbols.

However, Taura discloses characterized in that the incoming signal comprises a data frame including the sequence and the sequence comprises a sequence of OFDM symbols (column 1, lines 5 – 10).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Taura" as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal comprised of OFDM symbols, which is a well known encoding, for the purposes of determining when to power up the system in order to save energy.

Re claim 13, Lee discloses the wireless station as claimed in claim 7, but fails to disclose characterized in that the signal comprises a data frame including the sequence and the sequence comprises a sequence of OFDM symbols.

However, Taura discloses characterized in that the signal comprises a data frame including the sequence and the sequence comprises a sequence of OFDM symbols (column 1, lines 5 – 10).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Taura" as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal comprised of OFDM symbols, which is a well known encoding, for the purposes of determining when to power up the system in order to save energy.

Re claim 20, Lee discloses the method as claimed in claim 14 but fails to disclose characterized in that the signal comprises a data frame including the sequence and the sequence comprises a sequence of OFDM symbols.

However, Taura discloses characterized in that the signal comprises a data frame including the sequence and the sequence comprises a sequence of OFDM symbols (column 1, lines 5 – 10).

Motivation to combine may be gleaned from the prior art contemplated. Therefore, one skilled in the art would have found it obvious from the combined teachings of "Lee" and "Taura" as a whole to produce the invention as claimed with a reasonable expectation of achieving recognition of a RF signal comprised of OFDM symbols, which is a well known encoding, for the purposes of determining when to power up the system in order to save energy.

Contact Info

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NALIN PILAPITIYA whose telephone number is (571)270-7122. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571)272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NALIN PILAPITIYA/
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